



# CHLOROMETHANE

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Agency for Toxic Substances and Disease Registry ToxFAQs

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This fact sheet answers the most frequently asked health questions (FAQs) about chloromethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

**HIGHLIGHTS:** Exposure to high levels of chloromethane can cause serious problems to your nervous system, including convulsions and coma. It can also affect your liver, kidneys, and heart. This substance has been found in at least 172 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

## What is chloromethane?

(Pronounced klôr' ô mēth' ān)

Chloromethane is also known as methyl chloride. It is a clear, colorless gas. It has a faint, sweet odor that is noticeable only at levels that may be toxic. It is heavier than air, and it is extremely flammable.

## What happens to chloromethane when it enters the environment?

- ☐ Chloromethane is found in air, surface water, groundwater, soil, and sediment.
- ☐ It is present at very low concentrations throughout the atmosphere.
- ☐ Chloromethane breaks down very slowly in air.
- ☐ It breaks down slowly in water, but certain microorganisms can break it down more quickly.
- ☐ Most of the chloromethane in soil will move to air.
- ☐ It does not concentrate in plants, animals, or fish.

## How might I be exposed to chloromethane?

- ☐ Some chloromethane is produced by industry.

- ☐ Most of the chloromethane that is released into the environment is from natural sources, such as chemical reactions that occur in the oceans.
- ☐ It is also given off when materials like grass, wood, charcoal, and plastics are burned.
- ☐ It is present in lakes and streams and has been found in drinking water.
- ☐ Chloromethane is an impurity in vinyl chloride; exposure could occur from disposal of vinyl chloride waste.
- ☐ Other sources of exposure are cigarette smoke, polystyrene insulation, aerosol propellants, and chlorinated swimming pools.

## How can chloromethane affect my health?

Breathing very high levels, even for a short time, can have serious effects on your nervous system, including convulsions and coma.

Lower exposures can also cause staggering, blurred or double vision, dizziness, fatigue, personality changes, confusion, tremors, nausea, or vomiting. These symptoms can last for several months or years.

Exposure to chloromethane can harm your liver and kidneys. It could also affect your heart rate and blood pressure.

**ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>**

Some animal studies showed that animals that breathed low levels of chloromethane experienced slower growth and had brain damage. In other animal studies, males that were exposed to chloromethane were less fertile, or even sterile, or produced damaged sperm. Females that became pregnant by these males lost their developing young.

### **How likely is chloromethane to cause cancer?**

There is no evidence that chloromethane causes cancer in people. In animal studies, male mice that breathed contaminated air for 2 years developed tumors in their kidneys, but female mice, and male and female rats did not.

The EPA has determined that chloromethane is a possible human carcinogen.

### **How can chloromethane affect children?**

There are no studies on the health effects on children from exposure to chloromethane. We do not know if chloromethane exposure will harm developing fetuses or young children.

Animal studies show that female rats exposed to chloromethane during pregnancy had young that were smaller than normal, with underdeveloped bones, and possibly abnormal hearts (this effect remains uncertain).

### **How can families reduce the risk of exposure to chloromethane?**

- ☐ Keep children away from contaminated areas, such as workplaces that use chloromethane.
- ☐ Properly dispose of the older types of refrigerators that used chloromethane as a refrigerant.
- ☐ Become familiar with safety practices if you work with or near chloromethane.

- ☐ Teach children the dangers of breathing smoke from burning vinyl plastic or silicone rubber products (chloromethane is released).
- ☐ Have your drinking water tested if you are concerned about it.
- ☐ Check product labels for ingredients; contact manufacturers for additional information if you need it.

### **Is there a medical test to show whether I've been exposed to chloromethane?**

There are no known reliable medical tests to determine whether you have been exposed to chloromethane. Symptoms resembling drunkenness and food poisoning, along with a sweet odor of the breath, may suggest to a doctor that a person has been exposed to chloromethane.

### **Has the federal government made recommendations to protect human health?**

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit for chloromethane of 100 parts per million (100 ppm) for an 8-hour workday in a 40-hour workweek.

### **Source of Information**

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for chloromethane. Atlanta: U.S. Department of Health and Human Services, Public Health Service.

Animal testing is sometimes necessary to find out how toxic substances might harm people and how to treat people who have been exposed. Laws today protect the welfare of research animals and scientists must follow strict guidelines.

**Where can I get more information?** For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-8737, FAX: 404-639-6315. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

